

ABSTRACT OF THE DISCLOSURE

A method to obtain contamination free surfaces of a material chosen from the group comprising GaAs, GaAlAs, InGaAs, InGaAsP and InGaAs at crystal mirror facets for GaAs based laser cavities. The crystal mirrors facets are cleaved out exposed to an ambient atmosphere containing a material from the group comprising air, dry air, or dry nitrogen ambients. Any oxides and other foreign contaminants obtained during the ambient atmosphere exposure of the mirror facets are removed by dry etching in vacuum. Thereafter, a native nitride layer is grown on the mirror facets by treating them with nitrogen.